DOCUMENT RESUME

ED 203 291 CS 006 122

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TITLE Silent Rereading: Effect on Reading Speed and Comprehension Performance.
PUB DATE [79]
NOTE 15p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Grade 4; Intermediate Grades; *Reading Comprehension; *Reading Rate; *Reading Research; *Redundancy; Retention (Psychology); *Silent Reading

ABSTRACT

A study examined the effect on speed and comprehension performance of one silent rereading following an initial silent reading. Each of 17 fourth grade students silently read two 500-word selections, which were written at the third grade level, and then responded orally to 20 literal and above-literal questions based on the materials. The silent rereadings occurred immediately, after which the students again answered the comprehension questions. The students also answered the questions (presented in randomized order) one day later and one week later. The results indicated that time spent in silent reading decreased on a second reading; the silent reading speeds of 15 of the 17 students increased from the initial reading to the rereading episodes. After silent rereading, comprehension performance improved both one day and one week later. Retrieval of literal information was noticeably better than retrieval of above-literal information. (RL)

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"Silent Rereading: Effect on Reading Speed and Comprehension Performance"

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CS006122

Oral reading or repeated oral readings has been the subject of some recent research. Most of this research has ignored comprehension and dealt with oral rereading as a means of improving children's reading fluency (Brecht 1977, Chomsky 1978, Gonzales & Elijah 1975, Samuels 1979). One recent study has examined oral rereading and its effect both on reading speed and comprehension (Dahl & Samuels 1974).

Learning from print in the classroom however, very often involves silent rereading as well as oral rereading. Research dealing with children's silent rereading and comprehension is limited. Silent rereading has most often been included in studies to equalize time (Faw & Waller 1976) and oral rereading studies generally have focused on building fluency. The study reported here examines the effect of silent rereading both on reading speed and comprehension performance.

Theoretical Framework

Smith (1973) says that to some extent a reader must understand material read before many words can be successfully decoded. Establishing this familiarity with print can be accomplished through an initial reading followed by rereading, either oral or silent, which can be accomplished more efficiently than the initial reading.

According to LaBerge and Samuels (1974) skill in automatically decoding print is a characteristic of the fluent reader whose attention is then free to be used for comprehension. The reader who is not decoding automatically must focus attention on decoding rather than deriving meaning, thus comprehension suffers. Rereading material allows the reader to correct reading errors made intially and then decode more

automatically, aiding comprehension (Samuels 1979).

Orally rereading material decreased the number of reading errors made at both instructional and frustration levels by third grade students (Gonzales and Elijah 1975). Third, fourth and fifth grade students scored at least one grade level higher on an informal reading inventory when rated on an oral rereading (Brecht 1977). Samuels (1979) reported that as word recognition errors of one mentally retarded student decreased, fluency (accuracy of word recognition and reading speed) increased. Both reading speed and comprehension were significantly increased over the control group when repeated readings were used along with regular instruction (Dahl & Samuels 1974).

In view of the positive findings of oral rereading research, a study of the effect of silent rereading on the developmental reader's reading speed and comprehension performance seemed appropriate. In this study silent reading speed served as an indicator of fluency and automaticity of decoding.

Subjects

Subjects were 17 fourth grade students (10 females, 7 males) randomly selected on the basis of two criteria. First, a score between 4.0 and 6.5 grade equivalent on the reading comprehension subtest of the Iowa Tests of Basic Skills was needed. Second, an instructional reading level of fourth grade, as judged by students' teachers, was necessary.

Questions

The purpose of the study was to answer the following questions:

1. Does silent rereading increase reading speed?

2. How does silent rereading change comprehension performance?

Procedure

Trained examiners worked individually with students. Each student silently read two, 500 word selections, written on third grade level, and without access to the selection responded orally to 20 questions based on material read. Ten of the questions were paraphrased literal (Anderson 1972) and ten questions were above-literal (Sanders 1966). Examiners recorded time spent reading silently and verbatim responses. Selections were returned to the student who was told to reread silently to determine whether or not initial responses to questions were correct. Questions were then readministered. Rereading time and verbatim responses were again recorded. One day and one week later questions were administered to students in rerandomized orders.

Responses were scored on the basis of conformity with a range of answers and 94% agreement existed on scores among raters. Validity was determined by a panel of judges and reliability (.78) was established in a pilot study (D'Angelo 1978).

To answer the first question, differences in reading times were computed. To answer the second question an examination was made of numbers and proportions of responses and changed responses to questions. Means and standard deviations for responses one day and one week later were computed.

Results & Discussion

Silent reading speed of 15 of 17 students (88%) increased from initial reading to rereading (Table 1). These students spent an average of 55 seconds less in rereading material.

Insert Table 1 about here

After silent rereading, total comprehension performance improved for 13 of 17 students (76%) (Table 2). Total comprehension performance dropped for 2 of 17 students (12%) and total comprehension performance remained the same for 2 of 17 students (12%). Nine students (53%) increased correct responses to readministered literal questions. Seven students (41%) increased correct responses to readministered above-literal questions.

Insert Table 2 about here

When examining the 13 cases in which comprehension improved, even greater percentages were evident. Nine of these students (69%) increased correct responses to readministered literal questions and seven students (54%) increased correct responses to above-literal questions. Among these 13 cases, correct responses were made to as many as four more questions per student following rereading.

When numbers of responses to questions were examined (Table 3) most questions were consistently answered correctly (250 questions - 73%) or incorrectly (51 questions - 15%). Examination of the 39 responses which resulted in changes in comprehension performance scores is of interest here (Table 4). Of the responses which changed comprehension scores, 30 responses (77%) were initially incorrect responses changed to correct after silent rereading. This is more than three times the number of correct responses changed to incorrect.

....Of the 19 responses which changed literal scores, 15 incorrect

responses (79%) were changed to correct.

....Of the 20 responses which changed above literal scores, 15 incorrect responses (75%) were changed to correct.

Insert Tables 3 & 4 about here

When questions were readministered one day and one week later, comprehension scores remained high (Table 5). Students were consistently able to retrieve information to answer questions one day and one week following rereading. Retrieval of literal information was noticeably better than retrieval of above-literal information.

Insert Table 5 about here

Summary

Results of this study tend to support previous oral rereading research which has reported increases in rate and decreases in word recognition errors (Brecht 1977, Chomsky 1978, Gonzales & Elijah 1975, Samuels 1979). In this study increased silent reading speed for 15 of 17 students (88%) may indicate that students were rereading more automatically than during the original reading, and thus better able to focus on comprehension. Following rereading, 77% of the changed responses to questions increased comprehension scores, and suggest that students may be processing information differently on the second reading. Improved comprehension performances reported here for 13 of 17 students (76%) following rereading support Dahl and Samuels (1974) findings and

Samuels' (1979) statement that "...rereading both builds fluency and enhances comprehension" (p. 405).

Further research might examine the effect of silent versus oral rereading on rate and comprehension of both good and poor readers. In the meantime, silent rereading of a selection seems to be a useful post reading technique which results in better comprehension performance on literal and above-literal types of questions, both immediately and over time and deserves more widespread use in classrooms.

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Table 1

Silent Reading Time in Seconds

Student	Initial Reading	Rereading	Difference
1	415	350	- 65
2	385	336	- 49
3	286	256	- 30
4	380	401	+ 21
5	193	83	-110
6	264	292	+ 28
7	280	256	- 24
8	341	259	- 82
9	435	358	- 77
10	407	377	- 30
11	432	294	-138
12	202	186	- 16
13	287	232	- 55
14	328	259	- 69
15	240	210	- 30
16	235	199	- 36
17	195	174	- 21
	u = 312	u = 235	u = - 55

Table 2

Numbers and Percentages of Students Whose Correct Responses to Questions Increased, Decreased or Remained the Same

Questions	Number of Students Whose Correct Responses[a]		
	Increased	Decreased	Remained Same
Literal	9 (53%)	2 (12%)	6 (35%)
Above Literal	7 (41%)	1 (6%)	9 (53%)
Total	13 (76%)	2 (12%)	2 (12%)

[a]Total N=17

Table 3

Responses to Total Questions

	Consistently Correct	Consistently Incorrect	Changed	Total
Responses	250 (73%)	51 (15%)	39 (12%)	340

Table 4

Changed Responses to Literal and Above Literal Questions

Responses	Incorrect Changed to Correct	Correct Changed to Incorrect	Total
Literal	15 (79%)	4 (21%)	19
Above-Literal	15 (75%)	5 (25%)	20
Total	30 (77%)	9 (23%)	39

Table 5

Group Means and Standard Deviations

for Retrieval of Information

		After Reading	After Rereading	One Day Later	One Week Later
Retrieval of Info	M	15.12	16.64	16.12	16.82
	SD	2.91	2.52	2.26	2.07
Retrieval of Literal	M	8.00	8.94	9.00	9.29
	SD	1.32	1.09	.94	.99
Retrieval of Above Literal	M	7.12	7.71	7.12	7.53
	SD	2.18	1.76	1.80	1.91